MEMO

TO: Energy and Environment Committee

FROM: Ted Harris, Associate Regional Planner, 213-236-1916, harrist@scag.ca.gov

DATE: January 6, 2005

SUBJECT: Implementation of CARB's Refuse Rule

SUMMARY
Sarah Siwek, President of Sarah J. Siwek & Associates, will inform the committee of an opportunity to help improve air quality in the region.

BACKGROUND
California Air Resources Board (CARB) recently finalized a refuse-hauling rule that requires reductions of particulate matter (PM). However, the rule does not require additional reductions of smog-causing nitrogen oxides (NOx). Attached are a fact sheet, an air quality bulletin, and a presentation that Sarah Siwek developed to encourage cities and counties to have the refuse haulers install best available control technology to achieve reductions of both NOx and PM. The NOx reductions, if achieved, could help the region achieve air quality standards and maintain positive conformity status.

SEPTEMBER 1, 2004

Fact Sheet
California Air Resources Board (CARB) Solid Waste Collection Vehicle Rule
For a Complete Copy of CARB's FAQ's go to: www.arb.ca.gov/msprog/swcv/swcv_q&a.htm.

Summary of Rule

The California Air Resources Board (CARB) adopted a new rule in September 2003 that requires owners of waste collection vehicles to significantly reduce the emissions from their vehicles over the next six years. The rule became effective on July 20, 2004. The regulation requires waste collection truck owners to use CARB-approved best available control technology that best reduces diesel PM from 1960 through 2006 model year trucks.

Who Does this Rule Apply To?

The rule applies to owners of solid waste collection vehicles, which are defined as an on-road heavy-duty vehicle (gross vehicle weight over 14,000 lbs.) used to collect residential and commercial solid waste for a fee. Municipalities that operate their own collection services must abide with all aspects of the regulation that apply to collection company owners. CARB estimates that there are 12,000 refuse trucks operating throughout California.

Which Vehicles Does the Rule Apply to?

Solid waste collection vehicles starting with the 1960 model year.

How does an owner of solid waste collection vehicles comply?

CARB requires that Best Available Control Technology to reduce particulate matter emissions from diesel solid waste collection vehicles be used. The rule spells out four options as to how to comply. These include: 1) a new engine starting with model year 2007 engines, 2) a repowered 1994-2006 model year engines, 3) an alternative-fuel engine, or, 4) any diesel engine to which the highest level CARB-verified diesel emission control strategy is applied.

Are NOx Reductions Required?

No. NOx reductions are not required however a PM filter/NOx Catalyst combination has been verified by CARB for most 1993-2002 on-road engines.

What is the Cost of the Program and Who is Going to Pay for It?

Depending on the option chosen by the waster haulers, the costs can range from $5,000 to $45,000. The high end applies to vehicles that will need to be repowered. CARB allows for the costs of compliance to be covered through increases in fees charged for waste hauling. Municipalities and waste haulers are going to need to negotiate fee increases to cover the costs of compliance as part of their contract negotiations. Over 87% of the in-place refuse contracts include a provision to renegotiate if State laws change.

What is the Role of Municipalities?

Municipalities that contract out for waste collection services must submit an annual report to CARB including the municipality name and contact information. It must also supply information about the collection company it contract with and the address of each terminal in the jurisdiction that house collection vehicles. Also, any waste hauler contract with an effective date of December 31, 2004 or later must include the requirement that the contractor comply with all applicable air pollution laws.

SEPTEMBER 15, 2004
AIR QUALITY BULLETIN – TO ALL CITY AND COUNTY OFFICIALS
ACTION NEEDED
CARB'S REFUSE RULE:
SEIZE THE OPPORTUNITY TO REDUCE NOx AND PM EMISSIONS

Issue

- CARB's Refuse Truck Rule[1] became effective as of July 20, 2004. It impacts over 12,000 refuse trucks that operate daily throughout California, primarily on residential streets.
- ***If refuse haulers only meet the minimum compliance requirements, there will be no NOx reductions from retrofitting existing in-service vehicles as a result of this Rule.***
- ***This would be a huge opportunity missed to reduce the NOx-related health impacts on all Californians.***
- ***However, if both PM and NOx reductions were required, over 3.18 tons per day of NOx reductions, equal to nearly 10% of NOx from refuse trucks, could be achieved statewide.***
- ***Moreover, this reduction can be achieved at a very modest, one-time cost.***

Background

- The health impacts of particulate pollution and ozone (which includes NOx) are serious. Children, the elderly and those with respiratory problems are especially susceptible to the dangers of air pollution. These impacts are especially acute in low-income and minority neighborhoods and near freeways and major arterials.
- On average, each refuse truck emits 1.11 tons of nitrogen oxides (NOx) and .07 tons of particulate matter (PM) each year. Statewide, refuse trucks emit 13,320 tons of NOx and 840 tons of PM each year. That means refuse trucks emit over 39.49 tons per day of NOx and 2.3 tons per day of PM.
- We need to reduce PM and NOx emissions throughout the State in order to attain the Federal health-based air quality standards.
- The Refuse Rule requires PM reductions, but does not require NOx reductions, even though CARB-verified technologies exist to achieve cost effective NOx and PM reductions.
- If the Rule were also to require NOx reductions, over three tons per day, or 1,160 tons per year, in NOx reductions could be achieved:

Region	Possible NOx Reductions	
	Tons per Day	Tons Per year
Bay Area Air Quality Management District	0.61	223.0
South Coast Air Quality Management District	1.53	558.5
San Diego Air Pollution Control District	0.27	98.6
San Joaquin Air Pollution Control District	0.27	98.6
Monterey	0.06	21.9
Sacramento Metropolitan Air Quality Management District	0.18	65.7
Other areas in California	0.26	94.9
Total Possible Daily NOx Reductions	3.18 Tons Per Day	1,161.2 Tons per Year

[1] Article 4, Diesel Particulate Matter Control Measures, Chapter 1, Division 3, Title 13, California code of Regulations, Sections 2020, 2021, 2021.1, 2021.2.

Costs of Compliance are Minimal and One-Time Only

- CARB recognizes in the rule and has notified cities and counties[2], that the cost of compliance should be passed on to ratepayers and negotiated into refuse hauling contracts. Over 87% of the existing refuse contracts allow for renegotiation in the case of a new State law such as this.

- Where cities and counties directly provide waste hauling, they need to comply with the Rule. It is expected that they will also pass the cost of compliance on to residential and commercial customers.

- The costs[3] of rule compliance are shown below. This table assumes the entire cost is spread out over a one-year period. Assuming the monthly refuse service cost is currently $18.90 per household, the one-time cost increase would be 1.5% for PM only and 2.8% for PM and NOx reductions.

Cost	Monthly One Time Cost per Household	Total One Time Cost per Household
PM only control	$.28	$3.36
PM and NOx control	$.53	$6.36
Incremental difference PM only vs. PM and NOx	$.25	$3.00

Why Does This Matter to Cities, Counties & Metropolitan Planning Organizations (MPOs)?

- U.S. EPA requires that federal transportation investments support clean air goals.

- MPOs must demonstrate that transportation sources including trucks, cars, and buses are achieving emissions reductions from PM, NOx and VOCs. This is called transportation conformity. Refuse trucks need to reduce NOx to help in this process.

- **Failure to meet U.S. EPA transportation conformity requirements results in the withholding of federal transportation funds for all but limited types of projects. An interruption in the flow of federal transportation funds impacts everyone: cities, counties, transit agencies, and metropolitan planning organizations.**

What Can Cities and Counties Do? Be Proactive....

- Notify the refuse haulers in your city or county of the new CARB rule.

- Inform the refuse haulers that they must implement both PM and NOx reductions when available if they intend to negotiate for higher fees to offset the cost of the CARB Refuse Rule.

- If the city or county directly provides refuse hauling services, retrofit vehicles with PM and NOx reduction technologies. Get the maximum reductions possible.

The benefits to air quality and public health are well worth the effort!!

[2] CARB Board Members DeSaulnier, Patrick, Riordan, Roberts letter to all City and County Officials, April 30, 2004.

[3] All compliance costs are estimates using reasonable assumptions and are intended to offer an understanding of the magnitude and scope of compliance costs. Actual compliance costs must be considered on an individual fleet basis and will likely be different.

Energy and Environment Committee
January, 2005

Sarah J. Siwek
Sarah J. Siwek & Associates, Inc.

CARB Refuse Rule

- Effective July 20, 2004
- Impacts 12,000 trucks statewide
- Refuse trucks emit 13,320 tons of NOx and 840 tons of PM per year statewide
  - 36.49 tons NOx and 2.3 tons PM daily
- Rule requires PM reductions only
- We need NOx reductions too!

CARB Refuse Rule

- CARB notified cities and counties (4/30/04) that cost of compliance should be offset by ratepayers
- Cost to achieve PM reductions – one-time cost $.28 per household per month for 12 months or $3.36 total
- Minimum compliance; No NOx reductions

CARB Refuse Rule

- CARB-verified technologies to reduce NOx are available now that weren't when rule developed
- Cost to achieve NOx reductions – one-time cost of $.25 per household per month for 12-months or $3.00 total
- Would result in 1.53 tons per day of NOx reductions in the SCAB

CARB Refuse Rule

- Advocate that cities and counties be made aware of the opportunity to reduce both NOx and PM
- Suggest requiring maximum emission reductions from the rule
- Support necessary rate increases for refuse hauling contractor, or city, compliance

CARB Refuse Rule

- Why am I here?
- This is an opportunity that should not be lost
- We need NOx reductions
- These NOx reductions are:
  - Cost effective
  - Immediate
  - Can be used for conformity credit in regional emissions analysis

Action Needed

- Contact all cities and counties
- Provide information on the opportunity to reduce NOx and PM
- Encourage maximum reductions possible
- We will not get significant NOx reductions from refuse trucks for years without action now